Reply to Office Action of 12/22/2005   Appl. No.: 09/975,944
Amendment Dated: December 28, 2005   Attorney Docket No.: CSCO-012 /4912

REMARKS

Claims 1-30 were examined in the outstanding first final office action mailed on 12/22/2005. All claims were rejected and claims 1-9, 14-17, 21-230 were objected to. Reconsideration is respectfully requested in view of the below remarks.

Examiner Interview

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Applicants and the undersigned representative thank the Examiner for the telephone interview of December 28, 2005. Only the undersigned representative and the Examiner were present in the Interview. The undesigned representative had sent a few hours prior to the interview an electronic mail containing substantially the remarks of the present

10 amendment and the Examiner indicated that the email was not received. The undersigned representative orally presented at least substantially the arguments contained in the present response. No agreement appears to have been reached.

The Examiner had indicated that the Interview Summary Form PTOL-413 would be mailed in due course. It is respectfully requested that the completed form be mailed at the

15 Examiner's earliest convenience, if one has not already been mailed.

The applicant is believed to have met the burden of making of record the Substance of the Interview. See MPEP 713.04 for further clarification.

Objections

Claims 1-9, 14-17, 21-230 were objected to noting that claims 1, 2, 6, 7, 9, 14-17,

20 21-22 and 23 have phrases which were typed without spaces in between the words. A reformatted listing of claims is included with the present response, and is believed to include the spaces. Withdrawal of the objections is respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-23 and 28 were rejected under 35 U.S.C. 103(a) as being unpatentable over

25 Davie (U.S. Patent No.: 6,320,845) in view of Irish (U.S. Patent No.: 6,757,281 B1) further

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in view of Rochberger (U.S. Patent No.: 6,577,653 B1). Applicant respectfully traverses.

In particular, previously amended claim 1 recites that:

.. A method of processing a plurality of layer-3 datagrams in a first edge
router, said first edge router being connected to a second edge router by a layer-2
network, said method comprising:
provisioning in said first edge router a plurality of virtual circuits to said
second edge router on said layer-2 network, said plurality of virtual circuits being
associated with a layer-3 route;
receiving in said first edge router said plurality of layer-3 datagrams;
determining in said first edge router a subset of layer-3 datagrams, with each
datagram in said subset of layer-3 datagrams having a correspondinglayer-3route
equal to said layer-3 route, wherein said subset of layer-3 datagrams are comprised
in said plurality of layer-3 datagrams;
encapsulating each of said subset of layer-3 datagrams in a corresponding
plurality of layer-2 packets, *all of the plurality of layer-2 packets corresponding to
some of said subset of layer-3 datagrams being encapsulated for sending on a first
one of said plurality of virtual circuits and all of the plurality of layer-2 packets
corresponding to some other of said subset of layer-3 datagrams being
encapsulated for transmission on another one of said plurality of virtual circuits*;
and
sending said plurality of layer-2 packets related to said subset of layer-3
datagrams on said layer-2 network according to said encapsulating.
(Previously Amended Independent Claim 1, *Emphasis Added*)

Thus, in accordance with the method of previously amended independent claim 1,
all the layer-2 packets corresponding to some of the subset of layer-3 diagrams (sought to
be forwarded on the layer-3 route associated with the provisioned virtual circuits) are
forwarded on a first virtual circuit, and all the layer-2 packets corresponding to some other
of the subset of layer-3 datagrams are forwarded on a second virtual circuit.

For illustration (in an example scenario), assuming that 7 layer-3 datagrams are to be
forwarded on the layer-3 route and each layer-3 datagram is encapsulated in the form of 10
layer-2 cells, all 30 cells corresponding to 3 of the layer-3 datagrams are sent on a first
virtual circuit and all 40 cells corresponding to 4 of the layer-3 data datagrams are sent on
a second virtual circuit.

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The Examiner appears to rely on Rochberger to teach or suggest such a feature. In particular, it was stated in the Outstanding Office Action that:

> The examiner respectively disagrees with the applicant argument that the prior art references fails to show sending layer 2 packets which carry layer 3 datagrams
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> over different virtual circuits.
> Rochberger shows dividing layer 2 packets which inherently carry layer 3 datagrams over different parallel virtual circuits based upon the load.
> (Page 12, Paragraph 6.0, last two paragraphs, Final Office Action of 12/22/2005)

Though Rochberger discloses dividing layer-2 packets over different virtual circuits
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as also noted by the Examiner, it is respectfully pointed out that Rochberger does not disclose or suggest the specific way (of claim 1, explained above) in which layer-2 packets are divided among the virtual circuits. In sharp contrast, Rochberger discloses in relevant portions:

> A diagram illustrating the inverse multiplexing and inverse demultiplexing
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> performed at the source and destination nodes is shown in FIG. 4. The functionality of the hardware that is implemented includes transferring cells from serial to parallel and vice versa. *At the source node, the hardware is configured to convert a serial cell stream 90 into a plurality of parallel cell streams via a serial to parallel converter 92. The serial to parallel converter 92 functions as an inverse*
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> *multiplexor breaking up a single high bit rate cell stream into multiple lower bit rate cell streams.* The example ATM network shown in FIG. 1 is used to illustrate the invention. The three routes are represented as three cell streams 94, 96, 98 that are generated by the serial to parallel converter 92.
> *At the other end of the routes, the three cell streams are input to the*
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> *parallel to serial converter 100 which performs inverse demultiplexing.* The three separate cell streams are consolidated and reunited to form a single high bit cell stream 102.
> It is important to note that *the cells* arriving from the host *at the source node are preferably tagged with a serial number and transmitted in round robin fashion*
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> *between all the parallel paths* making up the complete call. *At the destination node, one or more cells may arrive out of order.* In this case, they are stored in a buffer, e.g., FIFO, etc., until either the missing cell arrives or the buffer fills up. Once the missing cell arrives or the buffer fills, the cells in the buffer are read out. If the buffer fills, any missing cells are treated as lost cells.
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> (Col 12 line 46 through Col 13 line 8 of Rochberger, *Emphasis Added*)

Thus, Rochberger appears to contemplate assigning the cells in a round robin fashion to the parallel path, and relying on techniques such as demultiplexing and inverse demultiplexing to effectively use the bandwidth on the parallel paths.

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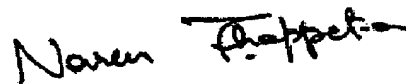Amendment Dated: December 28, 2005   Attorney Docket No.: CSCO-012 /4912

Such a technique is often inconsistent with the express claim feature (recited in claim 1) of transmitting all the layer-2 packets related to some layer-3 datagrams on the same virtual circuit. Accordingly, Rochberger does not disclose or suggest at least the features explained above of previously presented independent claim 1. The remaining references of

5   record also do not fill that void.

Accordingly, previously presented claim 1 is allowable over the art of record. The remaining independent claims are also allowable for similar reasons. The dependent claims are allowable at least as depending from corresponding allowable base claims.

Thus, all the objections and rejections are believed to be overcome. The Examiner

10   is invited to telephone the undersigned representative at 707.356.4172 if it is believed that an interview might be useful for any reason.

Respectfully submitted,

Date: December 28, 2005

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